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18 NOV 1959

MEMORANDUM FOR: Deputy Director of Central Intelligence**THROUGH : Deputy Director (Support)****SUBJECT : ELINT Training**

1. I am pleased to be able to report to you that on 24 October 1959 the Office of Training completed the first running of a three-week course in ELINT Training. It was attended by eight students, from the Office of Training and the Office of Communications. The course content is described in the attached schedule.

2. Mr. [redacted] of the OTR Intelligence School organized the course and served as Chief Instructor. I must say that I am highly gratified by the results of his efforts since hammering together a new course covering a subject which is still comparatively new to the Agency involved more than the usual number of growing pains. Excellent co-operation and support were received from the Office of Communications as well as from the several CIA components having ELINT responsibilities. Many of their key officers contributed significantly to the course not only as instructors but also in the development of the curriculum. Their collective efforts served especially to identify and resolve some of the differences existing among the CIA components.

3. The instruction itself was considered successful in giving the students an understanding of the process and problems of ELINT collection and analysis and an appreciation of the role of ELINT in the U. S. Intelligence effort. The course also served to point up a clear need for sharper definition of the CIA ELINT mission, for improved coordination of the CIA ELINT program, and the further development of clandestine collection (of ELINT) doctrine within the U. S. Intelligence Community. In matters of ELINT requirements, collection, and analysis, there appeared to be differences among the USB components concerned.

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4. As these factors become further resolved they will of course be incorporated into future presentations of the ELINT course. Other mechanical changes in course scheduling and presentation also are contemplated which should result in improved instruction. The next ELINT course probably will be offered early in 1960, and, it is hoped, to an increased enrollment.

SIGNED

MATTHEW BARD
Director of Training

Enclosure:
Course Schedule

Distribution:

Orig. & 1 - Addressee

2 - DD/S

1 - AFS

1 - DD/P

1 - DTR

2 - PPS

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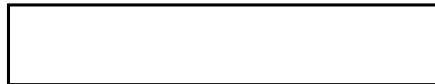
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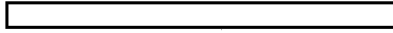
SUMMARY FOR THE BUSY EXECUTIVE


Report on the First Running

of



1. The course was successful because it was given. It has acted as a catalytic agent within the ELINT community and its value depends more upon this catalytic effect than upon the instruction the students received. There were flaws and imperfections in planning, execution, and administration and there are valid criticisms of substance and method. These are now historical. If the course is to be given again, it should not be revised but be completely torn down and rebuilt with a different objective and new material.

2. After several years of empirical operations in ELINT, CIA has reached the point where it can purify its functions and clarify its responsibilities for ELINT collection and analysis. Those Offices and components responsible for ELINT are now establishing firm intelligence objectives; working out standard methods of writing, serving, and fulfilling requirements; and allocating responsibilities under a new organization of the ELINT community. The instruments  of ELINT information were extremely valuable in the early days of the art; now, when the demands of information are much more sophisticated, they are becoming obsolescent. The Office of Communications has miniaturized and improved prototypes of these instruments ready for production; it is also carrying out a steady program of research to produce much more flexible machines. It was a pleasant coincidence for CTR that it could provide both in the preparation for the course and during the course itself an unofficial forum for discussion of these changes. Since, however, the changes are still in full flow, it is suggested that any new running of the course be postponed until those changes are complete or until the ODP requests a new running and can supply at least a minimum of students.

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PROBLEM: To set up and give a course in the clandestine collection of ELINT information.

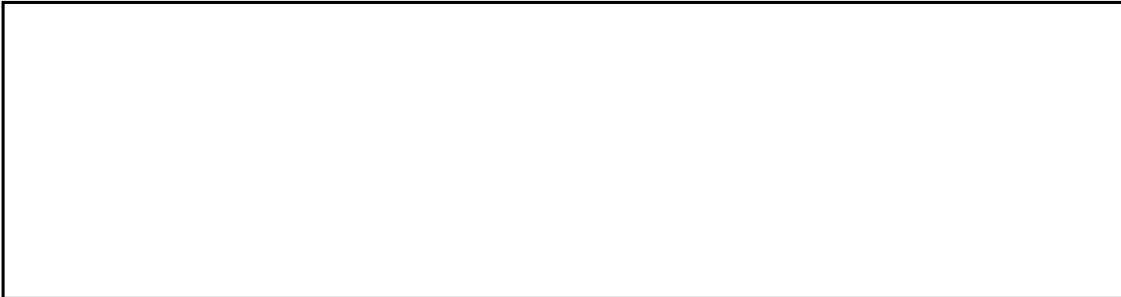
Background:



2. My first task was to find out something about ELINT and its technical background. [redacted] of CC gave me two excellent briefings on the subject and showed me the equipment used. [redacted] gave me the necessary basic documents to read, and the names of key people to interview. I also had to do considerable reading in basic electricity texts. With this knowledge, I began a series of interviews in three offices, first to establish firm objectives and next to find out precisely what should be taught. I immediately ran into profoundly different views on the importance of ELINT, its place in collection, and the responsibilities of two

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of the three Offices. The perplexities that I first encountered stayed with me during the remaining months of preparation.



4. On 26 June, I learned that the course would be postponed. [redacted] and I decided to take advantage of the momentum gained to make a dry run of the course on the original date set. After a futile attempt to get OSI to undertake the technical exposition of the subject, I turned to the training branch of CC under [redacted]. The branch produced quickly, first, a list of topics and then a week's schedule of instruction to be given at [redacted]. At a staff meeting held by [redacted] we reviewed each topic to be offered and I gave the week's instruction my complete approval over a vigorous objection by CSI. During the dry run, each guest speaker presented, not his complete speech but the topics he would discuss; the run included nearly a day-long presentation at [redacted].

5. In the next week I wrote a synopsis for each lecture that combined what was said with what should be said and distributed a full set of synopses to each lecturer. (Annex B) Finally, [redacted] and I visited each lecturer, checked on the progress of his lecture, and arranged for the production of the necessary training aids. [redacted] during this period did an heroic job: he kept production moving and he also worked with each speaker to modify and improve some of the speaker's original ideas on what constituted a good training aid.

6. [redacted] had been two years overseas engaged in ELINT operations. He returned to duty with CSI about 11 August and was assigned to work with me on the ELINT course as scientific adviser to OTR. He is an electronic engineer, has done university teaching, and knew at firsthand European operations. Finally, he was acquainted with most of the prominent figures in ELINT. [redacted] took over all the lectures to be given by CSI members and did a magnificent job in releasing tensions, outlining the substance of speeches, and finally in actually writing a few of them himself. Without his help, the course could not have been successfully given.

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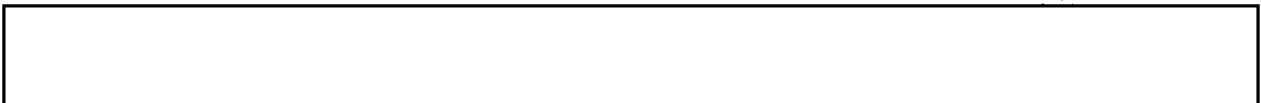
7. As [] and I began to work toward our opening date of 5 October 1959, we realized we were walking on explosive ground: too much pressure here or an unwary step there could produce a cataclysm that would wreck the course and our whole plans. We found every one who was participating eager to help and pleased that the course was to be given, but as we scheduled and re-scheduled the course we discovered that the material we had to work with was extremely fragile. Every time that we endeavored to set up problems for the students, or seminars, or even exercises, they crumbled in our hands. The organization of ELINT within the community was fluid, with a new alignment of powers not yet proved; the basic subject of requirements was under debate and revision; an area record of ELINT operations disclosed no significant intelligence gains; clandestine equipment was limited in the types of signals that it could receive and better equipment was still on the drawing board. It seemed odd also that in the support lectures such as those on photography it should be necessary to give an elementary lecture that gave directions for using a camera as a theodolite, i.e., as an instrument to take pictures in which dimensions could be accurately measured.

8. The course, aside from the week of technical instruction, evolved into a survey of the present status of ELINT, a course that showed what had already been accomplished, that pointed toward what could be accomplished, and that did not gloss over present difficulties in organization, equipment, and operations. To set this up as other than a straight lecture course, we scheduled three lectures, normally, in the morning, allowed the students an hour after lunch to discuss those lectures, and then held an open-ended panel in the afternoon in which the lectures could be freely discussed. The true base of any training course, case histories, we could not secure. I believe, however, that now that the course is over we have gained enough of the confidence of the participants so that we can persuade them to submit material for proper sanitization and the compilation of effective narratives.

9. Some other good plans got lost in the shuffle: check lists of things to do in setting up equipment, recording an operation, briefing an agent, using the supporting services; exercises with a camera; organization of four-man teams among the students who would work together in exercises with the clandestine equipment. These losses I regret.

DISCUSSION:

The Student Body:



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25X1 11. [] had suggested that the course be opened to JCT's. I am very glad that this particular running was closed to them. A rebuilt course, incorporating sound doctrine, probably could be set up for JCT's alone and run in conjunction with the S&T course. The JCT's would give us a group with which we could start from the ground up and a group over which we had control.

12. We could not assemble enough students with S.I. clearances for the course and dropped our sights to TOP SECRET. The mechanics of necessity have, however, proved that students must hereafter have the S.I. clearance if they are to receive full benefit from the course. There need be no further debate on the question.

The First Week:

25X1 13. From the first day to the last at [] the administration and instruction were smoothly controlled. The students were assigned [] their own so that their recreation room with its safe of classified documents gave them great range in discussion. The instructor, [], kept to a tight schedule, lectured well, and

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covered an amazing amount of ground during the week. The students retained a good deal of what they heard and now have a knowledge of basic theory and a good enough technical vocabulary so that they can ask intelligent questions and understand the answers. This part of the course I would change least of all in any rebuilding.

14. There are, of course, improvements. One student in his critique made the neat point that since [] had a captive audience, the training films be shown in the evenings. The removal of films from the working day would leave time for additions to the curriculum or changes. Because the pace was so rapid there was little time for actual demonstrations to accompany the lectures. [] used a vugraph effectively, but he was in a field that lends itself both to lecture demonstration and student experiment: the construction of a simple acid battery in the class room, putting a motor together from a loop of wire, a battery, and a magnet; showing lines of force gathering around a wire by strewing iron filings; actual construction of a crystal radio by the students or by student teams. With more time at his disposal, [] could do a very effective job with demonstrations.

15. The students asked for more time with the clandestine equipment. The suggestion is reasonable and the time should be given at []. On the analogy of military training, the equipment could be stripped, the nomenclature and function of each part taught, and then the students drilled in disassembly and assembly and sent out into the field, not once, but again and again, against specific targets.

16. These suggestions should not detract from an appreciation of the excellent work that [] did. Only a true professional could have held the floor, hour after hour and day after day, with no slackening of technique.

The Second Week: (including the introductory lecture on 2 October)

17. The majority of the lectures of the second week were satisfactory; the speakers had prepared them carefully and knew how to deliver them. Three for one reason or another were unsatisfactory. [] introductory lecture on the history and development of ELINT was written for a group of laymen with almost no knowledge of ELINT. Most of the people in his audience knew almost as much about ELINT as the lecture told them. The lecture failed not because of any flaws in it but because the peculiar character of the class made it irrelevant. Another lecture, that by [] on targets, was poorly

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25X1 delivered. Moreover, [] tended to list targets without
25X1 discussing their true importance. He is, however, intensely
interested in his subject and very earnest about enlisting the
aid of []. His speech can be brought into shape with
a little persuasion and help; a well-tuned microphone can take care
of the weakness of his voice. The lecturer on the geography of
Russia never got much beyond the nomenclature of geography and did
not relate his information to intelligence. The varying expressions
of disapproval by the students of the lecture are probably justified,
but their feeling that it is unnecessary to introduce geography as
a subject into the course is not. [] speaking on the
geography of China, proved that.

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19. The panels went over the usual hour and a half allotted to
them--I had left them open-ended so that they could continue--and I
think, glossed over very little and did give the students a true
picture of existing conditions. Here the heterogeneity of the class
helped; the questions were sound; many of them sprang from previous
experience in ELINT; and they came from a variety of Offices and
sources. Rather to my surprise, one of the more successful of these
panels--really a prolonged question and answer period by []
proved very effective in clearing up mysteries, pointing out the
cause of difficulties, and suggesting, at least, the method by which
cooperation could overcome them. I do not think that such a generous
use of panels could be made again; the panel was peculiarly adapted
to this type of class and effective only at this stage of the art.

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20. I felt during this second week that I was standing over an
anti-personnel mine that could blow at any moment. I was happy to
see Friday come. One flaw in the week was the limited amount time
spent in the analysis laboratory. The students need a much better
acquaintance with good and bad signals in order to realize the im-
portance of skill in either clandestine or overt ELINT collection.

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The Third Week:

21. During the third week there occurred our first bobble; the airplane we were to inspect had had an accident and could not appear on schedule. Luckily [] and I had previewed films for just this sort of emergency and we worked in two films of fair quality to fill the gap.

22. [] had carefully prepared the field exercise; he had arranged for an initial briefing by [], inspected and recorded the signals from the radars that the students were to search for, had prepared the laboratory for their analysis. The exercise went well in the field. Only when they got to the laboratory did the students discover that the tapes on which they had recorded were either imperfect or that they had not been erased. The failure of the tape pointed out emphatically and pragmatically the need for sending only well-checked-out equipment into the field with an agent and emphasized the responsibility of the case officer.

23. [] lecture was a good preparation for Cape Canaveral, but I had not allowed him quite enough time. I had to close him down after an hour and a half because the time was growing short before our departure.

24. The value of the trip to Cape Canaveral is still somewhat dubious in my mind, although the fact that two shoots we were scheduled to see were cancelled makes a final judgment difficult. The sight of the base itself, the briefing the students received in and on our installation, the actual handling of the instruments, and the production of recordings of previous shoots on the oscilloscope were all valuable. Certainly, the time we stayed at the Cape was too long and probably would not be repeated since another trip would not coincide with a repair trip for the plane. [] had arranged for the accommodation of and transportation of students admirably and very capably and the plane's departures and arrivals were on time.

Administration:

24a. Housekeeping: The housekeeping chores of running the course were adequately done. I had checked on [] arranged for classroom space in advance, transportation as needed, vouchers for re-payment to students, and the necessary training aids for each instructor. The course went off on schedule. On the other hand, the minutiae of direction were neither so smart nor as precise as I would

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25X1 have liked them to be. We moved four times during the course: from [] to Room 110, from Room 110 to Room 136, from Room 136 to Cape Canaveral. I had to handle the transfer of the kits from place to place, arrange for room security officers, list absences, and make all checks. I felt the need for a secretary who could have taken over these various small matters of record.

24b. Reading Materials: The reading materials were inadequate principally because we lacked case histories. I should have included in the schedule definite reading assignments and also have put into each kit annotations on each piece of reading matter that explained its significance to the course. Also, I set aside the period from 1600 to 1700 for reading and study. This action was a psychological error; the student could interpret this assignment as permission to go home.

Student Criticisms:

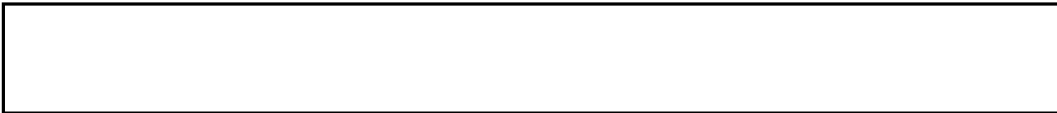
25. The critiques were agreed that there should be more handling of the agent gear. I would go farther and try to schedule nomenclature, stripping, assembly, stoppages, and the function of each part. Training of this sort would not enable the case officer to supplant the como man in the field; it would teach him how to work with him. Moreover, field operation of the gear against specific targets would make the student thoroughly familiar with its capabilities and limitations.

25X1 27. Behind several critiques is a conception of the case officer that would invalidate this whole running of the course if it were accepted as true. This concept is that the case officer in the field or at headquarters is a second lieutenant; he needs to know only a very narrow set of duties and should not concern himself with policy, strategy, or the eventual results of his actions. He receives a requirement; he need not question it or attempt to evaluate it. His only duty is to get the information required. Under this concept, it is quite unnecessary for the case officer to know very much about electronic theory, headquarters organization, intelligence objectives, or the whole process of analysis. []

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28. Another group of critiques raise a very acute question that in my opinion was never answered satisfactorily. What is the true intelligence value of ELINT information? Radar Order of Battle is a legitimate objective; information under this objective is being gained fairly satisfactorily by SAC and the Air Force by ferret and photographic planes. CIA can play a small but important part in collection [redacted] against specific targets, by use of its liaison services, and from occasional fixed sites. To a layman, however, the race between the development of new Soviet radars with variable frequencies and provisions against jamming and the ELINT collection of parameters to provide jamming instruments seems destined to be won by the Soviets. No jamming instrument can be built until it has a known target. The Soviets either are building radars faster than we can learn to jam them, or they are so controlling emissions that it is almost impossible for us to get the parameters.

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29. The real problem, however, is the continued insistence that CIA has an objective beyond ROB--the "new and the unusual." This new objective was never sharply defined, nor its intelligence significance discussed. The student never got a clear idea of how detection of new parameters or of new radar techniques gave us a new concept of Soviet capabilities in science or economics or gave us the basis for an estimate on Soviet courses of action.

30. At least one student pointed out that fixed sites or air-borne ELINT collection had nothing to do with [redacted]. He saw little need to discuss the [redacted] operation, for example. He has a point: telemetry cannot be monitored by clandestine equipment. This criticism swings back to an earlier attitude: that a knowledge of the whole field of ELINT is neither necessary nor desirable for the case officer. This attitude challenges the stated objectives of the course. It is a criticism I tried to foresee and forestall. I stated the objectives clearly in the training bulletin; I handed each student his copy of the schedule (Annex C) before that class started so that each could know what he was getting into; and I again reiterated the objectives in the first lecture of the course. These objectives were accepted by the DDP speakers. Here is another fundamental problem for CTR. No course can succeed if the students do not accept its basic premises. No student should enroll in a course if he does not accept its objectives. Perhaps the objectives

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should have come up before the ELINT Advisory Committee for discussion and acceptance before the course was built.

Conclusions:

a. The course was adequate for the state of the art, the student body enrolled, and the objectives stated. It should not be given again in its present form.

b. A new running of the course should wait a demonstration of need, the development of a body of doctrine, and the certified presence of 12 students.

c. JOT's assigned positions in Offices dealing in ELINT could be given a special course to prepare them for their duties. These JOT's should be under the control of CTR at the time of the course, and the course should be linked with the S&T course.

d. The intelligence value of ELINT collection has not been, as yet, fully determined. Until the ELINT community can focus its energies under an agreed-upon objective, any training course in ELINT will limp.

e. Probably, the trip to Cape Canaveral could be omitted from a future course, the course cut to two weeks, and those two weeks could profitably be given at ☐.



g. The course served a purpose that it should not have to serve: it broke down a good deal of compartmentation. One obvious preparation for better ELINT collection is the admission of a supporting organization such as PIC to the full confidence of the community and much more liaison between the working members of the two great Offices of DDP and OSI.

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Recommendations:

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It is recommended that --

- a. The course be given again only upon demand and after the assurance of sufficient students.
- b. Before a second running the course be completely rebuilt to take advantage of growth in doctrine, improvement in instrumentation, and the breakdown of compartmentation.
- c. The proposed course be cut to two weeks given wholly at WTC.

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